

IN THE CLAIMS:

The following is a complete listing of the claims in this application, reflects all changes currently being made to the claims, and replaces all earlier versions and all earlier listings of the claims:

Claim 1. (Currently Amended) A photoelectric conversion device, comprising:

a plurality of pixels each having, as one unit, photoelectric conversion means for converting light into an electrical signal to accumulate therein electric charges, and transfer means for transferring the electric charges accumulated in [[the]] said photoelectric conversion means, [[the]] said plurality of pixels being disposed in a matrix; and

means for sweeping out the electric charges accumulated in [[the]] said photoelectric conversion means through a control line for [[the]] said transfer means of [[the]] said pixels disposed along a line adjacent to [[the]] said photoelectric conversion means concerned, wherein

said photoelectric conversion means has at least a first electrode and a second electrode connected to said transfer means,

said means for sweeping out uses a capacitor between said second electrode of said photoelectric conversion means and said control line for said transfer means of said pixels disposed along the line adjacent to said photoelectric conversion means, and a voltage change of said control line in a reading operation for said pixels disposed along the adjacent line, to sweep out the electric charges accumulated in said photoelectric conversion means.

Claim 2. (Canceled)

Claim 3. (Currently Amended) A photoelectric conversion device according to claim 1, wherein ~~the photoelectric conversion means includes a MIS type photosensor having a metal layer, an insulating layer, and a semiconductor layer~~

said photoelectric conversion means is an MIS type photosensor having an insulating layer disposed between said first and second electrodes, and a photoelectric conversion layer disposed between said insulating layer and said second electrode.

Claim 4. (Currently Amended) A photoelectric conversion device according to claim ~~[[1]]~~ 3, ~~wherein the transfer means includes a thin film transistor~~

said transfer means has at least a gate electrode, a gate insulating layer, a channel layer, a source electrode and a drain electrode, one of said source and drain electrodes is connected to said first electrode of said photoelectric conversion means and the other of said source and drain electrodes is connected to a signal line through which an electric signal is transferred.

Claim 5. (Currently Amended) A photoelectric conversion device according to claim 1, wherein ~~[[the]]~~ said photoelectric conversion means includes a wavelength conversion unit and serves to convert light having a wavelength obtained through wavelength conversion by ~~[[the]]~~ said wavelength conversion unit into an electrical signal to accumulate the electric charges.

Claim 6. (Currently Amended) A photoelectric conversion device according to claim 5, wherein [[the]] said wavelength conversion unit includes a phosphor for converting ionizing radiation into visible rays.

Claim 7. (Currently Amended) A photoelectric conversion device according to claim [[1]] 4, further comprising:

bias means for supplying a voltage required when the light is converted into the electrical signal to [[the]] said photoelectric conversion means, wherein;

said bias means is connected to said second electrode of said photoelectric conversion means;

control signal supply means for supplying a control signal used to control an operation for transferring the electrical signal obtained through the conversion by [[the]] said photoelectric conversion means to [[the]] said control line; and

signal amplification means for amplifying the electrical signal transferred from [[the]] said photoelectric conversion means in accordance with the control signal supplied from [[the]] said control signal supply means to [[the]] said control line,

wherein said signal amplification means is connected to said signal line.

Claim 8. (Currently Amended) A photoelectric conversion device according to claim 7, wherein [[the]] said bias means supplies a voltage to [[the]] said photoelectric conversion means, a value of the voltage when the electric charges are accumulated in [[the]] said photoelectric conversion means being different from a value of the voltage when the electric

charges accumulated in ~~[[the]]~~ said photoelectric conversion means are swept out.

Claim 9. (Currently Amended) A photoelectric conversion device according to claim 1, wherein an electrical signal amplifier and a vertical scanning circuit suitable for photographing of a moving image are connected to ~~[[the]]~~ said plurality of pixels disposed in a matrix, and ~~[[the]]~~ said electrical signal amplifier and ~~[[the]]~~ said vertical scanning circuit are driven by utilizing a method suitable for the photographing of the moving image.

Claim 10. (Currently Amended) A photoelectric conversion device according to claim 1, further comprising dynamic range ensuring means for allowing ~~[[the]]~~ said photoelectric conversion means to ensure a dynamic range required for photographing ~~[[of]]~~ a still image.

Claim 11. (Original) A radiation moving image photography apparatus, comprising a photoelectric conversion device as claimed in any one of claims 1 to 10, wherein a moving image is photographed using the photoelectric conversion device.

Claim 12. (Currently Amended) A method of controlling a photoelectric conversion device including a plurality of pixels each having, as one unit, photoelectric conversion means having at least first and second electrodes for converting light into an electrical signal to accumulate therein electric charges, and transfer means connected to the second electrode of the photoelectric conversion means for transferring the electric charges accumulated in the photoelectric conversion means, the plurality of pixels being arranged ~~disposed~~ in a matrix,

the method comprising steps of:

executing a sweeping processing using a capacitor between the second electrode of the photoelectric conversion means and the control line for the transfer means of the pixels disposed along the line adjacent to the photoelectric conversion means, and a voltage change of the control line in a reading operation for the pixels disposed along the adjacent line, to sweep out the electric charges accumulated in the photoelectric conversion means for sweeping out the electric charges accumulated in the photoelectric conversion means using a control line for the transfer means of the pixels disposed along a line adjacent to the photoelectric conversion means concerned.

Claims 13 and 14. (Canceled)

Claim 15. (Currently Amended) A computer readable recording medium recording therein a computer program ~~as claimed in claim 14~~ for a computer control of a photoelectric conversion device including a plurality of pixels each having, as one unit, photoelectric conversion means having at least first and second electrodes for converting light into an electrical signal to accumulate therein electric charges, and transfer means connected to the second electrode of the photoelectric conversion means for transferring the electric charges accumulated in the photoelectric conversion means, the plurality of pixels being disposed in a matrix,

wherein the computer controls the photoelectric conversion device to execute a sweeping processing using a capacitor between the second electrode of the photoelectric

conversion means and the control line for the transfer means of the pixels disposed along the line adjacent to the photoelectric conversion means, and a voltage change of the control line in a reading operation for the pixels disposed along the adjacent line, to sweep out the electric charges accumulated in the photoelectric conversion means.

Claim 16. (New) The photoelectric conversion device according to claim 7,  
wherein

the means for sweeping out uses said capacitor and the voltage change to sweep out the electric charges accumulated in said photoelectric conversion means, after that said signal amplification means resets the first electrode of said photoelectric conversion means.

Claim 17. (New) A photoelectric conversion device, comprising:

a plurality of pixels each having, as one unit, photoelectric conversion means for converting light into an electrical signal to accumulate therein electric charges, and transfer means for transferring the electric charges accumulated in said photoelectric conversion means, said plurality of pixels being disposed in a matrix; and

control signal supply means for supplying a control signal to control lines for controlling an operation for transferring the electrical signal obtained through the conversion by said photoelectric conversion means, wherein

said photoelectric conversion means has at least a first electrode and a second electrode connected to said transfer means,

the electric charges accumulated in said photoelectric conversion means are

swept out using a capacitor between said second electrode of said photoelectric conversion means and said control line for said transfer means of said pixels disposed along the line adjacent to said photoelectric conversion means, and a voltage change of said control line in a reading operation for said pixels disposed along the adjacent line.

Claim 18. (New) A photoelectric conversion device, comprising:

a plurality of pixels each having, as one unit, photoelectric conversion means for converting light into an electrical signal to accumulate therein electric charges, and transfer means for transferring the electric charges accumulated in said photoelectric conversion means, said plurality of pixels being disposed in a matrix; and

control signal supply means for supplying a control signal to control lines for controlling an operation for transferring the electrical signal obtained through the conversion by said photoelectric conversion means, wherein

the electric charges accumulated in said photoelectric conversion means are swept out using a capacitor between said photoelectric conversion means, transfer means connected to said photoelectric conversion means and said control line for said transfer means of the pixels disposed along the line adjacent to said photoelectric conversion means, and a voltage change of said control line in a reading operation for said pixels disposed along the adjacent line.